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July 1999

MUNICIPAL WATER & WASTEWATER

PROJECT UPDATE

MWW Program Research Efforts for UV Disinfection

In recent years, ultraviolet disinfection of water and wastewater has become very popular. By Municipal Water and Wastewater (MWW) Program estimates, ultraviolet (UV) disinfection will account for nearly one-half of the disinfection systems in U.S. wastewater treatment plants by the year 2010. But recently, UV disinfection has received attention for disinfection of drinking water. This attention is due in part to a joint EPRI/American WaterWorks Research Foundation study titled Innovative Electrotechnologies for the Inactivation of Cryptosporidium (CR-111090). Just last month the International UV Association (IUVA) was launched. The MWW Program is one of the IUVA's founding members and Keith Carns, the MWW Program Director, will serve on its board. Research into various aspects of UV disinfection of potable water continues, as the MWW Program is cosponsoring studies of full-scale systems currently underway in Maine, Indiana and Wisconsin. Additional pilot investigations using pulsed UV on wastewater are underway in Ohio and planned for New York and Texas. The information from these studies will be pooled to identify operational and institutional barriers to implementing a UV disinfection system. By serving as a focal point for applied UV research, the MWW Program hopes to lower the barriers to implementation of UV disinfection and speed its use in the water and wastewater industries. For more information on the MWW Program's research efforts on UV disinfection of wastewater and potable water, contact John Murphy or Ray Ehrhard of the EPRI Community Environmental Center through the EPRI CAC.

MEETING WRAP-UP

Municipal Water and Wastewater Program Meeting

The Municipal Water and Wastewater Program Meeting was held at the end of June in Vancouver, British Columbia. Approximately 150 people attended the Conference portion of the meetings. Attendees heard presentations on Ozone, Membranes, High Intensity Pulsed UV, Reverse Osmosis, Pathogenic Protozoa, UV Disinfection, and much more. The next meeting of the MWW Program will be in Nashville, Tennessee. There will be a workshop on October 20 and the Regular Program Meetings will take place on Oct. 21 and 22. Call Kim Shilling, 314-935-8590 for details.

HEALTHCARE

PROJECT UPDATE

Benchmarking

The Benchmarking Study and results are completed and available for distribution to those utilities that participated. The Benchmarking Study lists comparative electrical usage for similar hospital facilities within our participant areas. If your utility did not participate in this initial Benchmarking Study but would like more information regarding how to provide this service for the hospitals in your area, contact Joel Bauch, Project Manager of Healthcare at 800-424-3774. If you would like more information on what the Benchmarking Study is all about, request a copy of the Benchmarking Brochure (BR-108345) from EPRI CAC.



MEETING WRAP-UP

June Conference for Healthcare

The June Conference for Healthcare was held last month in Seattle, Washington and sponsored by Seattle City Light, EPRI Healthcare Initiative (HCI) and EPRI Power Electronics Applications Center (PEAC). Power Quality (PQ) and electromagnetic interference were the prime focus of this conference. Our audience represented Hospitals from Washington State and our Healthcare Initiative members. Electromagnetic interference and PQ problems were identified, presented and discussed in detail. Case studies were given where PQ problems existed and successful solutions implemented, driving home the importance of this potentially critical issue dealing with quality of patient care. We discussed how facilities must share in the responsibilities of avoiding PQ issues within their facility and the role utilities have as well. A grid was presented showing the sources of PQ problems, identifying acts of God, point of origin, and facility based problems. HCI & PEAC explained how working hand in hand with the local utility could eliminate two-thirds of the problems. The June Conference Manual (TR-113357) is available through EPRI CAC.

AGRICULTURE

PROJECT UPDATE

Aquaculture Training Workshop

The first Aquaculture training short course was held June 18-19 at North Carolina State University. Drs. Tom Lorsodo and Alex Hobbs prepared the course materials to be a part of the deliverables of the EPRI / Carolina Power and Light / NC State University Fishbarn project due to be completed in the fall of 1999. The course covers all phases of recirculating aquaculture from site selection and construction through production and marketing.

When the course is held at the North Carolina location, the participants are provided both classroom and hands-on-training. The hands-on-training takes place in the newly completed Fishbarn and can last up to four hours. All participants are encouraged to bring their own specific problems to the course and are given the opportunity to ask the instructors for specific help.

In addition to the hands-on-training, a training manual is provided and a spreadsheet that allows the student to explore

production techniques and pursue what if situations in the event costs vary or fish prices change.

Based on student feedback, the first course was very successful. Registration was limited to 20 students. Participation was excellent and demand has already required the scheduling of a second course on August 20-21, 1999. If demand for the course continues, the EPRI Agricultural Technology Alliance (ATA) will package an abbreviated version for presentation at off-site locations. For more information on having an Aquaculture Training Course at a specific location, or to sign up for the workshop at the North Carolina location, contact the EPRI ATA through the EPRI CAC office.

UPCOMING WORKSHOP

Ozone Conference II: Pre- & Post-Harvest Applications Two Years after GRAS

EPRI Agricultural Technology Alliance and Southern California Edison are sponsoring a one and one-half day Ozone Conference, September 27-28, 1999 at the Edison AgTAC Facility in Tulare, California. The Conference features a live video teleconference with FDA and USDA staff to discuss regulators' views from inside the Beltway. Sessions on pre- and post-harvest applications discuss ozone uses in air, soil and water. Conference topics include research results, case studies, technological advances, controlled environment agriculture, safety, and toxicology. For additional information on fees, exhibit space and limited sponsorships, contact the EPRI Agricultural and Food Technology Office through EPRI CAC.

FOOD

PROJECT UPDATE

GRAS Update

In 1996 an Expert Panel convened by EPRI determined that ozone in food processing fits the definition for GRAS (Generally Recognized as Safe) status. This determination by recognized experts, notification presented to the FDA, publication of the Expert Panel findings and FDA's election not to challenge within 90 days after receiving notification of the panel findings, automatically allows for GRAS status of ozone and its use in food processing. Based on the GRAS affirmation process, several successful commercial applications of ozone in food processing are now in operation.



Even though the GRAS status of ozone has been widely accepted, considerable confusion still reigns in the legal community relative to the FDA approval of the process. The Food Technology Alliance (FTA) Offices receive many calls

requesting a Federal Register citation for the approval by the FDA for the use of ozone in food processing.

To provide clarification in this area, the Food Technology Alliance is working closely with the FDA to get recognition of the ozone processes and further clarify the GRAS status procedures. Until such time that the FDA issues a positive statement on ozone use in food processing, existing FDA rules for GRAS affirmation permit processors to utilize the technology as safe and move forward with commercial applications.

UPCOMING MEETING

Institute of Food Technologies National Meeting

The Food Technology Alliance will be attending and exhibiting at the 59th national meeting of the Institute of Food Technologists in Chicago, July 24-28, 1999. Featured in the exhibit will be ozone applications in food processing and the Mobile Trailer Demonstration Unit model on display. This meeting, attended by 20,000 professionals, is the premier food industry event. It features exhibits and seminars, new product presentations, special forums and up-to-the-minute presentations of scientific research to define the food industry today and into the next century. For more information, contact the Agricultural and Food Technology Alliances Office through EPRI CAC.

CHEMICALS, PETROLEUM AND NATURAL GAS

UPCOMING WORKSHOPS

Gas/Electric Partnership Workshop

For utilities interested in electric compression for gas pipelines, there will be an important workshop October 26-27, 1999, at Williams Pipelines facilities, Houston, TX. The workshop, "Gas/Electric Operational/ Economic Synergies II", follows the highly successful workshop held May 20-21, at El Paso Energy facilities. Its purpose is to improve the common understanding of critical issues in the electric and gas pipeline businesses associated with the operational, commercial, and economic interfaces impacting electric compression and gas/electric dispatch.

Details on how to register will be forthcoming. If interested, kindly email W. Richard Schmeal, rschmeal@ix.netcom.com for further information.

CWRT/EPRI Water Management Workshop

The Center for Waste Reduction Technologies (CWRT) and EPRI Water Management Workshop to be held on November 10, 1999 at Monsanto's facilities in St. Louis is shaping up very nicely. During the last planning meeting for the workshop, the planning group requested that Jimmy Kumana (EPRI Chemicals, Petroleum & Natural Gas Center consultant) make a presentation on Water Pinch Technology, Sam Woinsky make a presentation on Why Water Management is Important to the Chemicals & Petroleum Industries, and Pell Frischmann Engineering (part of the EPRI WPSA Alliance) make a presentation on success stories and the European perspective. In addition, the following six emerging technology talks identified by EPRI will probably be included in the workshop:

1. Freeze Concentration Crystallization Expands Into Water Recovery From Hazardous Wastes
2. Glegg Water Industries High Capacity E-Cell for Electrodeionization of Boiler Feedwater
3. Zenogem Low Sludge Biotreatment Technology
4. Cooling Water Conservation Through The Use of Advanced Distillation
5. 3D Cathode Heavy Metals Removal/Recovery
6. Microwave Emulsion Breaking

We will keep you posted as planning progresses. This workshop should be of great interest to your customers. For more information contact Sam Woinsky at 281-419-1122, at the EPRI Chemicals, Petroleum & Natural Gas Center.

UPCOMING MEETINGS

The 1999 Fall C&P Steering Committee Meeting

In the June issue of Industrial News Today, it was indicated that there were three alternatives for the date and location of the next Chemicals & Petroleum Steering Committee Meeting: (1) November 17-18, 1999 in Houston, as originally planned, (2) November 11-12, 1999 in St. Louis, so Chemicals & Petroleum Steering Committee Members could have the opportunity to attend the CWRT/EPRI Water Management Workshop described above, or (3) November 11-12, 1999 in Clearwater Beach, FL, so Chemicals & Petroleum Steering Committee Members could have the opportunity to attend The 13th International Forum on Electrolysis in the Chemical Industry, which is being held in Clearwater Beach on November 7 through noon on November 11, 1999. While both of these

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meetings are open to utility participation and are excellent opportunities, the decision was made to hold the next Chemicals & Petroleum Steering Committee Meeting on November 11-12, 1999 in St. Louis, since the CWRT/EPRI Water Management Workshop is becoming a very important event for EPRI and the CPNG Center's members and their customers. So, please mark your calendars for the next Chemicals & Petroleum Steering Committee meeting on November 11-12, 1999 and the CWRT/EPRI Water Management Workshop on November 10, 1999, both in St. Louis.

Industrial Energy Technology Conference (IETC) Board Meeting

The Chemicals, Petroleum & Natural Gas Center participated in this planning meeting for the next IETC meeting, to be held on April 4-6, 2000 in Houston. The Center will be chairing the following sessions: (1) Success Stories in Integrated Thermal and Water Management (code for Water Pinch), (2) New and Emerging Energy Technologies (code for electrotechnologies), and (3) Case Studies in Power Quality Successes. The chair of the Combined Heat and Power session (code for cogeneration) has not as yet been selected. The EPRI Chemicals, Petroleum & Natural Gas Center has a high probability of getting the co-chair spot for this session. We will keep you posted as things progress relative to this important meeting, which should be of great interest to members and their customers. For more information contact Sam Woinsky at 281-419-1122, at the EPRI Chemicals, Petroleum & Natural Gas Center.

CUSTOMER SERVICES

On-Site Courses

- Petrochemical Industry Overview Course
- Petroleum Refining Overview Course

For more information on these on-site courses, contact Sam Woinsky of CPNG at 281-419-1122.

FIBER, APPAREL, CARPET AND TEXTILE

PROJECT UPDATE

Continuous Microwave Dryer

This project will focus on effectively pre-drying tubular knits, carpets, and other textile products using Industrial Microwave Systems' (IMS), patented microwave drying system for continuous flow planar materials. This continuous microwave drying system can reduce the moisture content of tubular knits by 50%, double production speeds and significantly reduce drying and labor costs. For additional information, request PO-113042, "Uniformly Pre-drying Tubular Knits with Microwave Energy" by contacting EPRI CAC.

Contact Ed Fouche at the EPRI FACT Office for additional information at 919-515-7550 or efouche@epri.com.

PULP, PAPER AND FOREST PRODUCTS

UPCOMING MEETING

Fall Advisory Council Meeting

The Fall Advisory Council Meeting for the EPRI Pulp, Paper & Forest Products Office will be held October 11-12, 1999, at the EPRI Nondestructive Evaluation Training Center (NDE) in Charlotte, NC.

In addition to the regular PPFO Advisory Council meeting, a conference on NDE and Welding & Repair technologies will be given. All attendees will also receive a tour of the NDE facilities.

The fee for the conference is \$150 for target members and their customers. The fee for non-members is \$325. There is no cost for members of the Advisory Council. All target members are welcome to send additional representatives, and members are encouraged to bring their customers. The topic of this conference will be especially informative for people who are involved in maintenance and plant engineering. Contact Mark Snyder at mark.snyder@ipst.edu or through EPRI CAC for further information.



MATERIALS FABRICATION

PROJECT UPDATES

Tailored collaboration opportunity

IR/UV Traveling Demonstration Unit Reservations are still being taken for this Traveling Demonstration Unit (TDU) which is being sponsored by the Center for Materials Fabrication (CMF), in collaboration with suppliers of coating application systems, infrared (IR)/ ultraviolet (UV) equipment, and UV-curable powder coatings. This project has been designed to promote IR/UV curable powder coatings to utility customers. These IR/UV coatings, which are VOC-compliant alternatives for metal, plastic and wood substrates, consist of coatings application and recovery equipment, conveyors, and a combination electric IR/UV curing oven. The TDU, which will travel to any location in North America to demonstrate IR/UV curing technology to potential end-users, is available in one-week intervals to those utilities who wish to schedule visits. For additional information please contact Sal Lovano, CMF, 216-226-3470; slovano@tarateccorp.com.

Coatings Cost Comparison

CMF's Coatings Cost Comparison Model (DK-110164, R.20) is currently being expanded to include a module for evaluating the economics of electric IR booster ovens for new and existing finishing lines. This expanded model will provide annual operating costs comparisons with gas convection ovens as well as gas IR ovens and will be available in late 3rd Quarter. Speaking of coatings, the Powder Coatings Institute (PCI) has recently approved and made available a revised edition of Technical Brief #21, Economic Analysis Worksheet, which now includes infrared curing; and the PCI Complete Finishers Handbook, Second Edition. Both are available from PCI at 800- 988-COAT or email: pci-info@powdercoating.org.

CENTER ACTIVITIES

Microwave Industry Threatened

Current action is underway by the communications and computer industries that pose a threat to the use of microwave heating equipment in industry and elsewhere. Called Bluetooth by its developer Eriksson, this new communications technology has the potential to connect various electronic devices of different platforms, across a wireless network. The threat to the microwave industry comes in the form of Eriksson's claim that the use of heating equipment at 2450 MHz frequency can cause interference to Bluetooth communication devices operating at the same

frequency. Currently, manufacturers of microwave heating equipment (including residential and industrial ovens) have no limit on electromagnetic emissions except for human safety purposes, as long as they operate in the 2450 MHz band. Communications systems and other unlicensed devices must accept any interference caused by Industrial, Scientific and Medical (ISM) equipment. Eriksson's recent filing with the FCC presses for limiting electromagnetic releases at 2450 MHz. If the communications industry is successful in this initiative, manufacturers of microwave equipment will be exposed to increased liability and forced to meet emission limits that can only be achieved at great cost. This current freedom to radiate or leak at 2450 MHz is a prerequisite underlying inexpensive power sources and equipment. Without this freedom, the cost of microwave heating equipment could substantially increase, significantly limiting future expansion in many areas, and even threatening existing business. For additional information on this subject, please contact Gary Walzer of CMF at 614-421-3440, 614-421-3446 (fax), or gwalzer@tarateccorp.com.

CMF is looking for new project ideas

If there is an area in which you are interested and you would like to discuss project possibilities or simply suggest a project, CMF is ready to listen. Just contact Gary Walzer at 614-421-3440, 614-421-3446 (fax), or gwalzer@tarateccorp.com. We want to be involved in the projects which best reflect our members' needs and interests; please help us accomplish this.

MATERIALS PRODUCTION

PROJECT UPDATE

Induction Heating Verification

Center for Materials Production (CMP) has developed economic and thermal computer models to evaluate the thermal and economic characteristics of the reheating for processing of steel slabs, billets, and blooms, or aluminum billets and logs. Induction and gas-heating techniques are quantified by the model. To verify the results from the model, CMP has recently contracted with MEPOS, the Foundation for Metallurgical Research, Luleå, Sweden, to gather data from selected induction and gas-heating trials. The trials will involve reheating low-carbon steel, austenitic stainless steel, and aluminum billets using induction and gas heating. The steels will be reheated to 2300 F from ambient, whereas the aluminum will be reheated to 930 F from ambient. The induction heating will be conducted at three power levels: 125kW, 300kW, and 400kW at one frequency, 700 Hz. The results are expected to be available by the end of October, 1999.

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COMMUNICATIONS PRODUCTS

INSTRUCTIONS FOR VIEWING ALL HYPERLINKED COMMUNICATIONS PRODUCTS

The communications products listed below are available on-line. Just click your mouse on any of the products listed to access the publications on EPRIweb. Follow EPRIweb instructions for printing, ordering and downloading the products of your choice.

PREVIOUSLY ANNOUNCED PRODUCTS NOW ON-LINE		
OI#	TITLE	DISTRIBUTION DATE
Municipal Water and Wastewater		
CR-111090	Innovative Electrotechnologies for Cryptosporidium Inactivation	Jan-99
NL-113029	Water and Energy Clear Solutions - July Issue	Jun-99
TC-112661	Technologies for the Desalination of Brackish Water and Seawater	Apr-99
TC-113030	Issues for Ozone for Drinking Water Treatment	Jun-99
TR-112559	Joint Meter Reading -- A Collaborative Approach	May-99
Healthcare		
BR-107072-R2	EPRI Healthcare Products and Services Catalog	Jun-99
NL-112790	Power Prescription for Healthcare	Jun-99
Agriculture		
TA-112717	Freshwater Recirculating Aquaculture Facility: TechApplication	May-99
TB-112663	Variable Frequency Drives for Controlling Agriculture Ventilation Fans	Apr-99
TR-111495	A Demonstration of Commercially Sustainable, Land-Based Marine Finfish Aquaculture in the Northeast	Dec-98
TR-112457	The McLeod Harvest Method	Mar-99
Food		
NL-113173	Food Industry Currents	Jun-99
Fiber, Apparel, Carpet and Textile		
TO-111957	Microwave Drying of Textile Products	Jan-99
Pulp, Paper and Forest Products		
TR-112598	Resource Guide for Technology Transfer to the Pulp and Paper Industry: Part 3: Power Plant Efficiency and Optimization	Apr-99
Materials Fabrication		
TA-112685	UV Curable Coatings for Wood Meet Manufacturer's Challenges: TechApplication	May-99
TA-112686	Electric IR Booster Speeds Aluminum Aging Process: TechApplication	May-99
TR-111818	Induction Heat Treating Marketing Kit: A Sales and Marketing Support Guide	Apr-99
TR-112781	Energy Utilization in Injection Molding	Jun-99
Materials Production		
TR-112003	Analysis of the effect of Melting Furnace Type on the Cutting Machinability of Gray Iron	Mar-99
TR-112788	All Electric vs. Oxy-Fuel Glass Melting	Jun-99

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EPRI INDUSTRIAL AND AGRICULTURAL TECHNOLOGIES & SERVICES

BUSINESS SUMMARY:

Responding to the needs of EPRI members and their customers, activities focus on being the Business Partner of our members by delivering products and services that provide competitive advantages in the marketplace:

- ▶ Supporting Customer Retention and Competitiveness
- ▶ Growing Electricity Market Share
- ▶ Offering New Business Opportunities
- ▶ Increasing Customer Value of Electricity
- ▶ Providing Customers with Energy Solutions

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1999 EPRI INDUSTRIAL CALENDAR OF EVENTS

July 24-28	Institute of Food Technologies National Meeting	Chicago, IL
Aug 10-11	Board of Directors Meeting	Coronado, CA
Aug 20-21	ATA Aquaculture Training Course	Raleigh, NC
Aug 22-26	14th Ozone World Congress	Dearborn, MI
Aug 29-31	MWW Program/WaterWorld Energy Efficiency Conference	San Diego, CA
Sep 6-10	Integrated Global Water Management Conference	Prague, Republic of CZ
Sep 13-14	Fiber, Apparel, Carpet and Textile Office Advisory Meeting	Raleigh, NC
Sep 27-28	ATA Ozone Conference II: Pre and Post Harvest Applications	Tulare, CA
Sep 30-Oct 1	Client Relations Council Meeting	Nashville, TN
Oct 4-6	1999 Gas Machinery Conference & Exhibition	Houston, TX
Oct 4-8	Retail Advisory Meeting	Vancouver, CANADA
Oct 5-6	Fall Industrial & Agricultural Business Advisory Council Meeting	Vancouver, CANADA
Oct 11-12	Pulp, Paper & Forest Products Advisory Board Meeting & Seminar	Charlotte, NC
Oct 11-13	Agriculture & Food Technology Alliances Joint Fall Meeting	Minneapolis, MN
Oct 13-14	Fall Healthcare Initiative Conference	Charleston, SC
Oct 20-21	Research Advisory Committee (RAC)	La Jolla, CA
Oct 20	Water & Energy Conference	Nashville, TN
Oct 21-22	Municipal Water & Wastewater Program Meeting	Nashville, TN
Oct 26-27	Chemicals & Petroleum Gas / Electric Partnership Workshop	Houston, TX
Oct 25-26	Materials Fabrication Advisory Council Meeting	Philadelphia, PA
Oct 27-28	Materials Production Advisory Council Meeting	Philadelphia, PA
Oct 28-31	Worldwide Food Expo '99	Chicago, IL
Nov 7-11	International Forum on Electrolysis in the Chemical Industry	Clearwater Beach, FL
Nov 10	CWRT/EPRI Water Mgmt. Meeting: Issues, Technologies & Solutions	St. Louis, MO
Nov 11-12	Chemicals & Petroleum Steering Committee Meeting	St. Louis, MO
Nov 16-17	Board of Directors Meeting	San Antonio, TX

*Calendar items in **bold** have been revised or added since last month's Calendar of Events*

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